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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/629,972

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Robert W. Hulvey

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05/12/2005

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EXAMINER

CASIANO, ANGEL L

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,972

Applicant(s)

HULVEY, ROBERT W.

Examiner

Angel L. Casiano

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 20 is/are rejected.
- 7) ☒ Claim(s) 17-19 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

The present Office action is in response to application dated 30 July 2003

Claims 1-21 are pending.

Drawings

1. **Figures 1A and 1B** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **Figure 3**, see Page 6 of the Specification, "**key scan matrix 202**". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- Figure 11, “1102” and “1104”

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 2-6 and 8-12, and 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 2-3 recite the limitation "latched" in reference to claim 1. There is insufficient antecedent basis for this limitation in the claim. Claim 4 depends upon claim 3 and therefore is rejected under the same basis.

8. Claim 5 recites the limitation "switch transition circuitry" in reference to claim 1. There is insufficient antecedent basis for this limitation in the claim. Claim 6 depends upon claim 5 and therefore is rejected under the same basis.

9. Claims 8-9 recite the limitation "latched" in reference to claim 7. There is insufficient antecedent basis for this limitation in the claim. Claims 14-15 (depending upon claim 13) contain similar limitations and are therefore rejected under the same basis.

10. Claim 10 recites the limitation "scan logic" in reference to claim 9. There is insufficient antecedent basis for this limitation in the claim. Claim 16 (depending upon claim 15) contains similar limitations and is therefore rejected under the same basis.

11. Claim 11 recites the limitation "switch transition circuitry" in reference to claim 7. There is insufficient antecedent basis for this limitation in the claim. Claim 12 depends upon claim 11 and therefore is rejected under the same basis.

12. Claim 12 recites the limitation "output" in reference to claim 11. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1, 5-7, 11-13, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al. [US 6,304,250 B1].

Regarding claim 1, Yang et al. teaches a **wireless interface device** that services communications between a wirelessly enabled **host** and **user input device** (Figures 1-3). The reference includes a user input device comprising a **matrix** (see col. 2, lines 33; Figure 8; col. 7, line 32); a wireless interface unit that **wirelessly interfaces** with the wirelessly enabled host (see col. 7, line 37); a processing unit operably coupled to the wireless interface unit; an input/output unit operably coupled to the wireless interface unit and to the processing unit (see Figure 8), wherein the input/output unit also operably couples to the user input device; and a **keyboard scanning circuit** (see col. 10, lines 1-7) operably coupled to said input/output device to scan the rows and columns of said user input device, wherein: said scanning circuit **detects operation of a key** (see “key is depressed” col. 10, lines 14-17) associated with said user device by detecting a transition in the **voltage level** (see col. 11, lines 12-17) of at least one row in said switch matrix from a first **state** to a second state (see “low level”, col. 11, line 13). When a key is struck, a function signal is generated and **at the same time** a corresponding LED is enabled and turned on (changes in state) (see col. 5, lines 14-16).

As for claim 5, Yang et al. teaches an I/O **signal** upon detection of pressing a key (see col. 11, lines 6-16).

As for claim 6, the reference teaches an activation signal causing the device to change **state** (see col. 11, lines 12-17).

Regarding claim 7, Yang et al. teaches a **method** (see col. 13, line 59), including a **user input device** comprising a **matrix** (see col. 2, lines 33; Figure 8; col. 7, line 32); a wireless interface unit that wirelessly interfaces with the wirelessly enabled host (see col. 7, line 37); a processing unit operably coupled to the wireless interface unit; an input/output unit operably coupled to the wireless interface unit and to the processing unit (see Figure 8), wherein the input/output unit also operably couples to the user input device. The reference teaches a keyboard scanning circuit (see col. 10, lines 1-7) operably coupled to the input/output device to scan the rows and columns of said user input device. The reference **applies** control signals to the matrix (see col. 2, lines 29-41). The keyboard circuit **detects** operation of a key (see “key is depressed” col. 10, lines 14-17) associated with said user device by detecting a transition in the **voltage level** (see col. 11, lines 12-17) of at least one row in said switch matrix from a first state to a second state (see “low level”, col. 11, line 13). When a key is struck, a function signal is **generated** and at the same time a corresponding LED is enabled and turned on (**transition in state**) (see col. 5, lines 14-16).

As for claim 11, Yang et al. teaches an I/O **signal** upon detection of pressing a key (see col. 11, lines 6-16).

As for claim 12, the reference teaches a signal causing the device to change **state** (see col. 11, lines 12-17).

Regarding claim 13, Yang et al. teaches a **system** (see col. 12, line 38) for communications between a host and a user input device (see Figure 3). The reference includes a **wireless interface unit** that services communications between a wirelessly enabled **host** and **user input device** (Figures 1-3). Yang et al. also teaches power management for controlling the **power consumption** (see col. 1, lines 23-25; col. 6, lines 4-6) of the system. The reference includes a user input device comprising a **matrix** (see col. 2, lines 33; Figure 8; col. 7, line 32); a wireless interface unit that **wirelessly interfaces** with the wirelessly enabled host (see col. 7, line 37); a processing unit operably coupled to the wireless interface unit; an input/output unit operably coupled to the wireless interface unit and to the processing unit (see Figure 8), wherein the input/output unit also operably couples to the user input device; and a **keyboard scanning circuit** (see col. 10, lines 1-7) operably coupled to said input/output device to scan the rows and columns of said user input device, wherein: said scanning circuit **detects operation of a key** (see “key is depressed” col. 10, lines 14-17) associated with said user device by detecting a transition in the **voltage level** (see col. 11, lines 12-17) of at least one row in said switch matrix from a first **state** to a second state (see “low level”, col. 11, line 13). When a key is struck, a function signal is generated and **at the same time** a corresponding LED is enabled and turned on (changes in state) (see col. 5, lines 14-16).

As per claim 20, Yang et al. teaches an **I/O signal** upon detection of pressing a key (see col. 11, lines 6-16).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 2-4, 8-10, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. [US 6,304,250 B1] in view of Vidales [US 6,178,527 B1].

As for claims 2-3, the Yang et al. reference fails to explicitly teach a high state uniquely or ambiguously corresponding to the activation of a switch in the matrix. Regarding this limitation, Vidales teaches mapping particular keycodes to binary values. It is well known in the art that binary values are used to indicate “1” or “0”, or high/low states. Therefore, the combination of references teaches the claimed limitation.

As for claim 4, the Yang et al. reference fails to explicitly teach resolving an ambiguity and identifying activation of switches. Regarding this limitation, Vidales teaches a comparator and microcontroller (see col. 6, line 27 and line 34). The microcontroller generates and stores a message including the code of the keycode set used for communicating keystrokes (see col. 6, lines 34-37). A transmitter, responsive to the microcontroller transmits signals representing the input and diagnostics. This includes a LED (see col. 6, line 41). Therefore, it would have been obvious to one of ordinary skill in the art at the time that the combination of reference unambiguously identify a state corresponding to the activation, as presented by the LED.

As for claims 8-9, the Yang et al. reference fails to teach a method including high state uniquely or ambiguously corresponding to the activation of a switch in the matrix. Regarding this limitation, Vidales teaches mapping particular keycodes to binary values. It is well known in the art that binary values are used to indicate “1” or “0”, or high/low states. Therefore, the combination of references teaches the claimed limitations for the method.

As for claim 10, the Yang et al. method fails to disclose the step of resolving an ambiguity and identifying activation of switches. Vidales teaches a comparator and microcontroller (see col. 6, line 27 and line 34). The microcontroller generates and stores a message including the code of the keycode set used for communicating keystrokes (see col. 6, lines 34-37). A transmitter, responsive to the microcontroller transmits signals representing the input and diagnostics. This includes a LED (see col. 6, line 41). Therefore, it would have been obvious to one of ordinary skill in the art at the time that the method resulting from the combination of reference unambiguously identifies a state corresponding to the activation, as presented by the LED.

As for claims 14-16, these correspond to the system for implementing the method disclosed in claims 8-10 and previously rejected. Accordingly, the present claims are rejected under the same rationale.

Allowable Subject Matter

17. Claims 17-19 and 21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Challener et al. [US 6,630,926 B2] teaches apparatus and method for verifying keystrokes within a computer system.
- Powers et al. [US 6,460,103 B1] teaches method and apparatus for rapidly responding to routine software requests.
- Fujita [US 6,035,363 A] teaches information input adapter and an information processing system.
- Chan et al. [US 5,991,546 A] teaches system and method for interfacing input devices to USB bus system.
- Sakai et al. [US 5,905,914 A] teaches portable computer having dedicated register group and peripheral controller bus between system bus and peripheral controller.
- Aebli et al. [US 5,878,276 A] teaches handheld computer which establishes an input device as master over the CPU when it is coupled to the system.

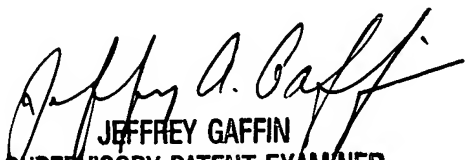
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel L. Casiano whose telephone number is 571-272-4142. The examiner can normally be reached on 9:00-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alc
09 May, 2005


JEFFREY GAFFIN
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